

IN THE CLAIMS:

1-99. (Presently Canceled)

100. (New) A method for controlling gene expression in a cell, the method comprising:

- (a) transforming a cell with a DNA molecule, said DNA molecule comprising a first component which encodes an ecdysone receptor, said receptor comprising:
  - (i) a ligand binding domain of a *Heliothis virescens* ecdysone steroid receptor as shown in amino acids 327-545 of SEQ ID NO: 5 or a derivative of said ligand binding domain wherein said derivative comprises one or more conservatively substituted amino acids and wherein said derivative retains a function of said ligand binding domain;
  - (ii) a DNA binding domain; and
  - (iii) a transactivation domain;

and a second component comprising a hormone response element and a target gene; and

- (b) applying to the transformed cell an effective exogenous inducer wherein when the ligand binding domain of said first component binds the effective exogenous inducer, said DNA binding domain of said first component then binds to the hormone response element of said second component and causes expression of said target gene.

101. (New) The method according to claim 100, wherein the cell is a plant cell.

102. (New) The method according to claim 100, wherein:

- (a) the transactivation domain is that of a *Heliothis virescens* ecdysone steroid receptor as shown as amino acids 1-1652 of SEQ ID NO: 5 or a derivative of said transactivation domain, wherein said derivative comprises one or

more conservatively substituted amino acids and wherein said derivative retains a function of said transactivation domain;

- (b) the DNA binding domain is that of a *Heliothis virescens* ecdysone steroid receptor as shown as amino acids 163-228 of SEQ ID NO: 5 or a derivative of said DNA binding domain, wherein said derivative comprises one or more conservatively substituted amino acids and wherein said derivative retains a function of said DNA binding domain.

103. (New) The method according to claim 100, wherein said first component comprises a nucleic acid sequence set forth in SEQ ID NO: 4.

104. (New) The method according to claim 100, wherein at least one of the transactivation domain and the DNA binding domain consists of a non-*Heliothis virescens* transactivation domain or a non-*Heliothis virescens* DNA binding domain.

105. (New) The method according to claim 104, wherein the non-*Heliothis virescens* transactivation domain and the non-*Heliothis virescens* DNA binding domain are selected from the group consisting of:

- (a) a glucocorticoid receptor DNA binding domain;
- (b) a glucocorticoid transactivation domain; and
- (c) a VP16 transactivation domain.

106. (New) The method according to claim 100, wherein the target gene of the second component confers tolerance to herbicides, insects, or combinations thereof.

107. (New) A method according to claim 100, wherein the effective exogenous inducer is [1,2-dibenzoyl, 1-tert-butyl hydrazide] or [3,5-dimethylbenzoic acid 1-1 (1,1-dimethylethyl)-2(4-ethylbenzoyl) hydrazide].